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ABSTRACT

A study was conducted over four semesters, spring 1976 through fall 1977, at the State University Colleges at Oswego and Cortland, two arts and sciences colleges of the State University of New York. It investigated the relationship of selected demographic variables of college teachers, selected environmental factors, and grades given by faculty members. It was found that grading patterns are idosyncratic of each campus, despite the institutions' similarities. Class size and level were found to have some, though statistically insignificant, relationship to grading practice, while faculty rank, degree, and tenure, sex, age, and discipline have none. It is concluded that the factors in the study cannot in themselves account for grading differences. (MSE)

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GRADES AND TEACHER CHARACTERISTICS

This research was conducted on selected demographic variables of college teachers, selected environmental factors and grades given by faculty at two State Colleges, specifically State University College, Oswego and State University College, Cortland, two Arts & Science colleges of the State University of New York.

The correlation study described relationships between:

1. teacher age and grades given.
2. teacher sex and grades given.
3. teacher rank and grades given.
4. teacher salary and grades given.
5. teacher degree and grades given.
6. teacher employment status and grades given.
7. male/female ratio and grades given.
8. teacher tenure status and grades given.
9. academic discipline and grades given.
10. class size and grades given.

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The study investigated the relationship of the studied variables over a four semester time period, specifically spring 1976 through fall 1977.

College enrollments are getting smaller and in the next decade it appears that the available undergraduate population will stabilize before it begins to rise again (Chronicle of Higher Education, 1976). Even with this decrease in enrollment, college and university professors still turn students off and push them out the "revolving" door of academics. This is done by giving a grade or grades that may have life-long consequences of great magnitude.

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One could speculate on the number of gifted students in all academic areas that have left higher education for other careers or no careers, resulting from a professor assigning a grade or grades. Attrition, coupled with a declining birth rate, is sufficient evidence for administrators and faculty to examine institutional grading practices.

The purpose of this research was to determine if relationships exist among demographic variables of college teachers, selected environmental factors and grades given.

In a study of grade prediction, both instructors and students agreed that a given performance may be given a different grade in different sections of the same course. This fact, if true, means that a B in one section of a course may reflect the achievement of a C in another section of the same course. Inequities such as this probably should be a topic of serious study by departments (Doerann, 1973).

Similar studies done by Prather (1976) and Williams (1971), provide the bases for the present study. Prather (1971) found:

A. Part-time teachers, graduate teaching assistants and instructors give higher grades on the average than other members of the faculty at the undergraduate level.

B. Courses showing a tendency to have proportionately higher grades at the undergraduate level include special education, curriculum and instruction, health, physical education, recreation and safety, and early childhood education.

C. There appears to be progression to more stringent grades for undergraduate courses as the faculty member's rank increases. Department head status is indicative of the most stringent grading patterns.

D. Courses with a higher percentage of A's and B's have fewer withdrawals.

E. As the size of the class increases, the proportion of higher grades tends to decrease.

F. Within the number of contributing variables it was found there is a negative relationship between years at the institution and grades given indicating that the longer a faculty member has been at the institution the less likely that he gives higher grades.

G. As the age of the faculty increases, the probability of higher grades also increases. (p. 8)

Williams (1971) investigated the relationship between characteristics and perceptions of instructors and grading practices at a junior college. He found little over-all difference in the grading pattern of male and female faculty, however, faculty in the age range of 35-55 years of age tended to be the highest graders. Instructors in business administration and commerce, language arts, science and mathematics, and the social sciences showed a high probability of being low graders. Individuals teaching fine arts, physical education, recreation, health, vocational and special programs showed a greater likelihood of being high graders.

There has been a continuing trend at American colleges and universities to award higher grades each year. This increase in the number of A's and decrease in the number of failing grades, without a corresponding increase in SAT scores, has caused some concern (Chronicle of Higher Education, 1976). This concern has caused teachers and administrators at Cortland State and Oswego State to examine grading to a greater extent.

The effect of teacher demography in higher education has not been

studied extensively. The type of information most frequently offered has been limited primarily to the frequency of A grades being given, the number of students graduating with honors, and the number of C's and failing grades given. Analysis of these data has shown that the number of A's and B's has increased while C's and failing grades have decreased. The early research literature (1947-1975) in college grading practices set forth the hypothesis that grading patterns for different major fields is a reflection of adaptation-level. The theory suggests components of the curriculum adopts grading standards that match the aptitude level of the students in the field (Goldman, 1975). This theory and previous grade studies support the propostion that various parts of the curriculum have different grading standards. Although grading is discussed at length in the educational literature, studies which take teacher characteristics and their grading practices as their principal focus, appear to be scarce.

The availability of only a small number of references indicates the level of scholarly attention paid to grading and teacher characteristics. The existing research also reveals no convergence of opinion concerning:

1. Relationships among such factors as course environmental factors, or
2. Those faculty characteristics that are most likely to be correlated with the ease or severity of grading.

While failures may be striking evidence of grading severity, a high failure rate or passing rate may be indicative of some faculty-student characteristic(s). In relation to this, Helson advanced the follow-

ing notion in 1947:

> The adaptation level theory envisioned by Helson (1947) refers to the 'anchoring' effects of background stimuli in making judgments about focal stimuli. If focal stimuli are the performance of students and background stimuli are the performance of other students in the class, then each student's performance is judged in the context of other student performances. (pp. 217-44)

Adaptation theory, therefore, predicts that grading standards are determined by the ability level of the student population. Thus, if average ability rises without a corresponding increase in average grades, then grading standards have risen.

Schell (1967) suggested that determination of grades is largely the decision of individual instructors who after evaluating students' work against some standard, determines the grade of the student and the distribution for the class.

In addition to the "normal" evaluative procedure, recent grading practices have seen grades assigned according to performance contracts, individual projects and internships. Grades are also being assigned individually to students who have worked cooperatively on projects but the grading method utilized is the instructor's internal decision, based upon student-teacher interaction. If this assumption is true, then the method of assigning grades is wholly a function of instructor characteristics and course characteristics. This study did not attempt to assess the qualitative factors of this interaction nor ability level of students.

With all colleges and universities facing declining enrollments, increased attrition rate, and an economy that is not conducive to attracting students, all colleges and universities need to consider alternative means of attracting, recruiting and retaining students.

This study was an attempt to add additional data on grading which will possibly help to maintain and/or increase enrollment. Furthermore, the study has attempted to provide information about course completion factors and grades given in various departments. Ideally, the grade a teacher gives should be based solely on the ability demonstrated by a student within a given course. It is anticipated that an analysis of faculty demography, course factors and grades given, will provide meaningful relationships for those who plan the future staffing and financing of State University College at Oswego, Cortland and other similar institutions of higher education.

Phi Betta Kappa reports that to keep their membership selective many chapters are raising minimum requirements. One chapter (at the University of Indiana) refused to admit new students in the spring of 1976 until selection standards are stiffened (Chronicle of Higher Education, April 26, 1976).

Dickinson College has for a number of years published a listing of students who made GPA's of 3.5 or better. The publication of this listing has recently been temporarily discontinued because its length has become an embarrassment (Higher Education Daily, January 23, 1975).

It has been argued by Etzioni (1975) that the two prevalent views of grading standards--the traditional and the progressive--are inconsistent with recent increases in grade point averages (GPA) which has been widely labeled grade inflation. According to Etzioni, the traditionalists maintain that when a student works for a better grade, he is receiving valuable training for real life situations where competi-

tion is constantly present. Grades are said to advise students of their achievement and academic pursuits and this provides an incentive to excel. On the other hand, the progressive viewpoint is that learning is its own reward and that grades are demeaning and the reinforcement purpose of grades interferes with the true needs of the student. This need is feedback which is ongoing rather than a final letter grade. Etzioni concluded:

> Whichever philosophy one subscribes to neither provides a rationale for the kind of wishy washy grading now on the increase...it does rank and label people, but does not give them clear performance cues. (1975, p. 1)

In a research report of the Division of Educational Planning and Development on Los Angeles Community College District Grading Practices and Policies, a number of reasons were outlined for the increase in increased grading patterns throughout the nine different campuses of the Los Angeles Community College District. The reason for the gradual rise in average GPA was contributed to:

A. The Vietnam War and student activist movements of the late sixties which gained the sympathy of many faculty members and prompted some to grade less harshly.

B. A general increase in the freedom of faculty to be more divergent.

C. A corresponding increase in the general license to criticize traditional institutions and practices on the part of faculty and students.

Finally the concern over maintaining increasing enrollments and thus revenues which may have stimulated higher grading levels as an aid in recruitment. In a recommendation for further study the Divi-

sion recommended that there be a clearer delineation of grading policy in college catalogs and faculty handbooks. One of the major problems mentioned in the study was that many aspects of grading policy were not expressly designed in either the college catalog or faculty handbook. Such policy clarification could aid both the students and teachers in defining grading standards. The absence of such elaboration leads one to believe that the Los Angeles Community College District Grading Practices are guided more by unofficial policy than by official policy.

Fricke's (1975) study of the University of Wisconsin, showed that the freshmen GPA's at that institution for the academic year 1974-75 were the highest ever earned despite the fact that this same freshmen class was the weakest in more than two decades in terms of its performance on standardized tests.

The positive function of grades are addressed by Feldmesser (1972). He refuted the common criticism of conventional grades and made a case for the benefits to the student of a grade, the GPA, and the reported appraisal that become a student's permanent record. Feldmesser believes that lack of validity is the most legitimate criticism of grades and that the overwhelming majority of college faculty has not been trained to make valid educational evaluations. He stated:

> The ordinary college teacher giving out grades in the ordinary way on the basis of a few special papers and tests and a single final examination is a fountain of error and everyone knows it except the professor himself. (1972, p. 72)

Student evaluations of faculty have received more attention in this

era of accountability. Some believe that teachers may be tempted to use easy grading as a means of buying high student evaluations. Hills (1974) provided an excellent review on the uses of student ratings of faculty. He reported:

> There is not even a consistent relationship between the grades students get and the ratings they give the faculty. The relationship has been found to be positive, negative, and even zero in various studies. (1974, p. 320)

In Pugh's (1974) study undergraduate grading practices were examined by division, department, level, class size and sex. Demonstrated course level and course enrollment were associated with differences in grade distribution. Women students were found to receive higher grades in smaller classes and there was an overall difference between departments and course level for the four year period. Pugh's study is similar to this study in that department, class size, and course level was examined. Demography variables of faculty makes this study more comprehensive than the research by Pugh. The search for possible relationships begins with the question of class size. Are small classes really more effective for teaching than large classes? The answer of the professor has generally been "yes" but the data of the 1920's look hard at many "self evident truths" about human behavior. Among them was the assumption that class size had something to do with educational efficiency.

Edmundson and Mulder (1924) compared the performance of students enrolled in a large student class matched for intelligence with students enrolled in a 43-student class of the same course in education.

Achievement of the two groups were approximately equal with a slight edge for the small class on the mid-semester tests and for the large class on quizzes and the final examinations. Students reported a preference for small classes. The Edmundson and Mulder studies gave rise to a large experimentation in varying subject matter as psychology, physics, accounting, law and education. Forty-six of the results favored the large class.

Support for small classes however came from studies in the teaching of French at the University of Wisconsin (Cheydleur, 1924). More recent experiments favor small classes. Nachman and Opochinsky (1958) found a small class to be superior to a large class on surprise quizzes but no significant difference between performances of the two classes on the final examination of which both groups prepared.

In a study by Georgia State (1974) it was found that the larger the class size, the fewer the A's in the course, freshmen and sophomore courses give fewer A's on the average, part-time instructors give substantially more A's.

The study also showed that the larger the class size the fewer B's were given. The study also showed that senior and junior level courses have substantially fewer C's than the average.

Most of the reviewed research has continually failed to find any strong correlation between class size and student learning or student success. Shrisp and Aver (1974) in their study on college mathematics instruction found no significant correlation between class size and student learning, while Homer (1972) in his study found that the instructor's attitude was more important to student success than class size.

Jorgensen found that student completion is affected by class size. For 195 classes characterized as small (0-20) student completion was significantly lower than in large classes. This result could not have been obtained by chance alone and is guaranteed by a z value of 5.56--well beyond the .01 level of confidence.

Due to the apparent conflict which exists between recent educational research and Jorgenson's research, Jorgenson suggests further studies should be done to establish reasons for the findings that small classes have a lower completion rate.

Prather and Smith (1976), in their study of faculty grading patterns, found academic field of the course is strongly related to the letter grade assigned. This procedure of the author is replicated in this study to determine if academic discipline is correlated with grades given. Another similarity in the two studies is one of procedure. To be more specific, their study examined course by course characteristics in an attempt to determine if certain fields like chemistry, physics, mathematics and other quantitative type courses tend to grade more severely than other disciplines. This study examines academic credentials as a possible correlate to grades given. This study will also examine salary of various professors in an attempt to establish relationships to the grades they give. Education in the United States has determined that advanced and terminal degrees are a necessary entity for appointments in colleges and universities, therefore, one thrust of this study will be an attempt to describe grading by those appointees with advanced and terminal degrees.

Qualitative type courses tend to have stringent grading standards across department and school lines, thus it appears that grades are influenced to no small degree by the associated discipline and the values assigned to grades by the discipline. In undertaking their study, Prather and Smith outlined some suppositions:

1. Major fields of study is a predictor of the grades received in courses throughout the university's curricula offerings.

2. There will be a consistent trend for certain components of the curriculum to have higher estimated grades than other parts. The physical sciences will probably be the most difficult courses for all majors.

Although not very explicit, it appears that the authors reflect on adaptation theory. They seem to suggest that the students of low ability fields would tend to receive higher grades without fully documenting those fields in the studies.

Prather and Smith also found in undergraduate grading practices at Georgia State University that major field is strongly associated with the grades students receive in courses throughout the curriculum. Prather and Smith's study and previous grade studies support the proposition that various parts of the curriculum have different grading standards.

Majors tend to receive better grades in parts of the curriculum while doing poorer in other parts.

For example, English majors tend to receive relatively higher grades in teacher education courses than their other courses while the grades they receive for physical science and foreign language courses are, on the average, lower.

Physical science courses were generally more difficult for all majors. It should be noted that Prather's study does not take into account course characteristics that may have some relationship to grades given within the major curriculum or outside the major. This study attempted to examine course characteristics of class size, course level, and male-female class composition as they relate to grades given.

The relationship of the personal and academic background of faculty attributes with grade distribution was studied by Prather and Smith (1976). They found that while there existed some weak association between grades and teacher attributes, the strongest indicators of grade distribution were course discipline designations. It was reported that:

> Courses showing a tendency to have proportionately higher grades at the undergraduate level include: Special Education, Curriculum and Instruction, Health, Physical Education, Recreation and Safety, and Early Childhood Education. (1976, p. 14)

Procedures

Studies on evaluation give an indication of the complexity of grading. To establish that grading patterns have changed in higher education is possible by a simple examination of the literature. The orientation of this study however was descriptive. It is concerned with the relationships between instructor characteristics, student characteristics, course characteristics and grades given.

Course grades were obtained from the Registrar's office of SUC-Cortland and SUC-Oswego. These data were extracted representing a cross-section of classes, and full-time and part-time faculty in all departments at both Cortland and Oswego from spring 1976 through fall 1977. This grading period represents the largest enrollment periods at both schools.

The data organization allow grading to be studied according to levels of instruction and course designation, while controlling for demographic characteristics of the faculty. The personal characteristics of each faculty member consisted of sex, age and salary; while the faculty characteristics consisted of academic discipline, academic credentials, professional rank of instructor, tenure status, and course load of each teacher. The course characteristics consisted of class size, and male/female composition. The data represent 268 sections and 5,363 grades.

Cover letters explaining the purpose of the study and requesting permission to conduct the study were sent to the appropriate administrators at both institutions, State University Cortland and State University Oswego (see Appendix C). Because of the confidentiality of the materials related to students and faculty, a confidential statement was prepared by the researcher assuring the respective institutions the data were to be used for research purposes and would be destroyed upon completion of the research.

An examination of all academic units of both colleges which consisted of faculty personnel forms and instructor's final grade sheets was conducted to determine the sample.

The course-section units of each department were listed individually. Twenty per cent of the sections representing each department was determined. Utilizing a table of random numbers the individual sections were selected. The student sample was derived by using all students within the section whenever the section included

30 students or less. Whenever the section had 31 to 150 students, 30 students were selected randomly. When the section included 151 students or more, 20 per cent of the section was selected randomly.

Data Analysis

The research design is based upon multivariate analysis. The chosen method is a general linear regression model (regression analysis) which Kerlinger (1973) suggests is a direct and powerful way of effective formulation and prediction. It is contended that to analyze the grade data using analysis of variance alone would present problems of analysis for particular sets of data. An example of a problem would be the inherent problem of discipline or subject area analysis. The reader should also note multiple regression is an appropriate design to handle discreet, continuous and categorical data. To use analysis of variance alone assumes relationships are linear. This study being descriptive rather than analytical suggests predictability rather than interaction or causality.

The analysis of grades was performed using a stepwise procedure that ranks the variables according to the proportion of the variance in the independent variables in the equation that is associated with the dependent variable while controlling for the other variables previously entered into the analysis. The purpose of using this technique was to aid in locating those variables which had the strongest relationship in the equation to the criterion.

It was mentioned earlier that these data represented 5,363 grades from 268 sections from two State University Colleges - State University/Cortland and State University/Oswego. The data from the two institutions were analyzed for the purpose of ascertaining the degree of consistency with each other as well as the degree of consistency with earlier studies of a similar nature.

In examining the studied variables, Table 1 gives the stepwise regression analysis on the dependent variable, mean grade.

Class size appears to be the variable most highly correlated with mean grade at Oswego while salary appears to be most highly correlated with mean grade at Cortland.

The data were analyzed further by categorizing the dependent variable according to the proportion of A's and B's (Table 2). Consistent findings occurred here. Mean grade was the obvious variable that entered the regression analysis first in both samples.

Inconsistent findings occurred with respect to analysis of mean grade and discipline at Cortland and Oswego. The data were analyzed by means of cross tabulation.

The analysis of grades by discipline is presented in Tables 3 and 4. The data were analyzed by grouping sections taught into discipline categories of the humanities, social sciences, physical sciences, quantitative sciences, technical sciences and natural sciences (see Appendix A).

The Oswego data were analyzed by means of cross tabulation which yielded a Chi Square of 48.62 and a contingency coefficient of .4533 with 48 degrees of freedom which is significant at the .03 level.

Table 1

Cortland-Oswego Mean Grade Stepwise Regression Analysis

Oswego			Cortland		
Predictor variable	Coefficient	Rank	Predictor variable	Coefficient	Rank
Class size	.426	1	Salary	.246	1
Teacher sex	.458	2	Level	.248	2
Student sex	.477	3	Teacher sex	.370	3
Level	.488	4	Class size	.409	4
Year of birth	.490	5	Degree	.432	5
Tenure status	.492	6	Year of birth	.443	6
Rank	.493	7	Tenure status	.446	7
Degree	.494	8	Rank	.463	8
Employment status	.494	9			
*Salary		N/I			

*Variable was not entered in the analysis.

Table 2

Cortland-Oswego Proportion of A's and B's Regression Analysis

Oswego			Cortland		
Predictor variable	Coefficient	Rank	Predictor variable	Coefficient	Rank
Mean grade	.838	1	Mean grade	.853	1
Tenure	.841	2	Salary	.882	2
Degree	.843	3	Tenure status	.884	3
Year of birth	.844	4	Level	.885	4
Level	.845	5	Teacher sex	.887	5
Teacher sex	.846	6	Rank	.889	6
Student sex	.847	7	Degree	.890	7
Salary	.848	8	Year of birth	.891	8

Table 3

Cross Tabulation of Oswego Discipline by Mean Grade

Humanities 1	Social Sciences 2	Physical Sciences 3	Quantitative Sciences 4	Technical Sciences 5	Natural Sciences 6	Row Total
1	2	0	0	0	0	3
2.5-2.74						1.6
0.5	1.1	0.0	0.0	0.0	0.0	
1	1	0	1	0	0	3
2.75-2.99						1.6
0.5	0.5	0.0	0.5	0.0	0.0	
3	2	5	3	0	0	13
3.0-3.24						6.9
1.6	1.1	2.7	1.6	0.0	0.0	
7	7	1	4	1	4	24
3.25-3.49						12.8
3.7	3.7	0.5	2.1	0.5	2.1	
10	7	6	4	1	3	31
3.50-3.74						16.5
5.3	3.7	3.2	2.1	0.5	1.6	
11	13	2	1	1	3	31
3.75-3.99						16.5
5.9	6.9	1.1	0.5	0.5	1.6	
14	8	4	2	1	6	35
4.0-4.24						18.6
7.4	4.3	2.1	1.1	0.5	3.2	
11	1	2	3	1	3	21
4.25-4.49						11.2
5.9	0.5	1.1	1.6	0.5	1.6	
5	4	1	2	1	4	17
4.50-4.74						9.0
2.7	2.1	0.5	1.1	0.5	2.1	
8	1	0	0	0	1	10
4.75-5.00						5.3
4.3	0.5	0.0	0.0	0.0	0.5	
71	46	21	20	6	24	188
37.8	24.5	11.2	10.6	3.2	12.8	100.0

Chi Square = 48.62 with 45 degrees of freedom; significance = 0.3292; contingency coefficient = 0.45; missing observations = 1

Table 4

Cross Tabulation of Cortland Discipline by Mean Grade

	Humanities 1	Social Sciences 2	Physical Sciences 3	Quantitative Sciences 4	Natural Sciences 6	Row Total
3.0-3.24	0	0	2	1	1	4
	0.0	0.0	2.5	1.3	1.3	5.1
3.25-3.49	0	0	2	1	0	3
	0.0	0.0	2.5	1.3	0.0	3.8
3.50-3.74	1	0	5	1	0	7
	1.3	0.0	6.3	1.3	0.0	8.9
3.75-3.99	6	1	7	3	7	24
	7.6	1.3	8.9	3.8	8.9	30.4
4.0-4.24	12	2	0	0	6	20
	15.2	2.5	0.0	0.0	7.6	25.3
4.25-4.49	3	0	0	0	6	9
	3.8	0.0	0.0	0.0	7.6	11.4
4.50-4.74	1	6	0	0	2	9
	1.3	7.6	0.0	0.0	2.5	11.4
4.75-5.00	1	2	0	0	0	3
	1.3	2.5	0.0	0.0	0.0	3.8
Column Total	24 30.4	11 13.9	16 20.3	6 7.6	22 27.8	79 100.0

Chi Square = 79.26 with 28 degrees of freedom; significance = <.0001
contingency coefficient = 0.70 , missing observations = 0

To analyze the data further, analysis of variance was done. A Pearson Product Moment Correlation yielded a negative relationship (-.02) and a significance level of .03.

The Cortland sample produced a zero order correlation of -.11, a significance level less than .0001, a Chi Square of 79.28 with 28 degrees of freedom, and a contingency coefficient of 79.28.

In analyzing mean grade and discipline at Oswego, the highest grading discipline was found to be the technical sciences, followed by the natural sciences, humanities, social sciences, quantitative sciences and the physical sciences. This zero order correlation of -.02, however, is not statistically significant. This finding is not consistent with those by Williams (1971).

The data analysis in the Cortland sample showed the social sciences yielded the highest grades followed by the humanities, natural sciences, physical sciences and the quantitative sciences (Table 4).

Prather (1976) and Prather and Williams (1971) in their analysis conducted a course by course analysis of grades, not accounting for differences that could possibly occur in teacher demography and course differences. This study examined individual sections of courses within a department and combined those sections into six area disciplines for mean grade analysis. Appendix A indicates a grouping of sections that was combined into area disciplines for this study.

Tables 1 and 2 indicates faculty rank plays only a small role in both samples with mean grade. Additional examination of these data indicate instructors grade higher than faculty members of other ranks. These findings suggest rank is only slightly correlated with grades. This study failed to show age highly correlated with mean grade. On the other hand, further examination of the results showed teachers in the Oswego sample under the age of 35 to be the most severe graders. The Cortland sample, on the other hand, yielded opposite results. The most stringent grading teachers are those teachers over the age of 54. The highest graders in the Cortland sample were those teachers in the age category of 45-49.

The variable "degree" entered the Oswego stepwise regression analysis on the eighth step. Similar results occurred with the Cortland step-wise regression analysis. Degree entered the equation at the fifth step, thus suggesting consistency with the Oswego findings. Upon further examination it was found that teachers holding the bachelor's degree were less stringent in their grading than those teachers holding the master's degree. Those teachers from both samples holding the master's were less severe than those teachers holding the doctorate. Here again, limited predictability is indicated by the regression analysis, therefore, these findings suggest no statistical relationship. Prather's (1976) findings of more stringent grades as the faculty member's degree advances.

Results on salary by mean grade from Cortland and Oswego do not

agree (Table 1). The stepwise regression analysis indicates salary entering the Cortland analysis first. On the other hand, salary did not enter the Oswego analysis. However, the Cortland sample shows those teachers paid $21,000 and under award slightly higher grades than those teachers paid over $21,000. This difference amounted to only .1 of a grade point. The reverse was true, however, with the Oswego sample. Those teachers being paid under $21,000 were .1 of a grade point more stringent than their higher paid colleagues. These results, however, were not statistically significant.

The analysis of employment status (full-time-part-time) presented in Table 1 suggest that the obtained results were not highly correlated with mean grade. Upon further examination, however, the Oswego sample shows .1 of a grade point difference in part-time teachers over full-time teachers. Therefore, the results of this study tend in direction to agree with Prather (1976) but again, the obtained results are not statistically significant.

The step-wise regression analysis presented in Table 1 shows sex of the teacher entering the Oswego equation on the second step and the Cortland in the Cortland sample on the third step. The multiple correlation coefficients of .458 and .370 suggest little relationship of teacher sex and mean grade. The highlights are: female teachers are less severe graders than male teachers, but again this finding is not significant.

Both the Cortland and Oswego samples show female teachers awarding higher mean grades than their male colleagues. The Oswego sample shows this difference to be .3 of a percentage point. The Cortland sample shows this difference to be .9 of a percentage point. This difference did not yield a multiple correlation coefficient sufficiently high enough to be of any value in prediction.

Sex of the student resulted in a small increase in the multiple correlation (.477) (Table 1). Therefore, one could conclude that sex of student plays a negligible role, if any, in the grades that teachers give. Here again, this finding is not statistically significant.

Additional findings indicate those classes categorized as high male resulted in the classes having a mean grade point average of .2 of a grade point higher than those classes categorized as high female (Appendix). On the other hand, those sections of relatively equal male-female composition, this difference amount to only .1 of a point. This negligible correlation of .07 indicates high male classes increases mean grade. This finding is consistent in direction with Racchio and Kearne (1956). One is hard put to make any confident assertion about a relationship between proportions of either sex.

The predictor variable, level, .10 of 1 per cent to the explained variance (Table 1) in the Oswego sample and even less in the Cort-

land sample. The findings in this study tend to support Jorgansen (1976), and Shrisp and Aver (1974). Even though the results suggest class size as being the best predictor, this small multiple correlation coefficient suggests limited predictability.

Tenure status appears not to contribute very much to the multiple regression equation.

This study fails to support previous studies in general. Mainly, it failed to show that discipline was a significant factor in the grading process of teachers. Also, little evidence was found to support the previous literature which suggests that salary, tenure, rank, degree and work status may be correlated with the grading process of teachers. The results also failed to support the contention that teacher age is significant in the grading process. As far as sex of teacher is concerned, there was a small percentage point difference between male and female teachers, but resulted in a negligible correlation coefficient. Therefore, this study does not lend support to the previous literature on teacher sex and grades being correlated.

SUMMARY

A summary of the findings presented. This section also includes suggestions for research related to teacher characteristics and grades.

This study concludes that the two institutions, although similar, are different institutions as they pertain to grading. It appears that findings previous studies have discovered have been an artifact of the milieu of the school. The colleges in this study are both arts and science institutions, and are of the same university. In some cases previous findings were substantiated. Specifically, at Cortland the findings of severity of grading were significant in the physical sciences, quantitative sciences and the natural sciences. On the other hand, this finding at Oswego is not consistent with the Cortland results. To elaborate further, some inconsistencies in results occurred in the two institutions. For instance, the Oswego analysis resulted in class size and level being the highest and most frequently occurring predictor variables. On

the other hand, the predictor variable of salary was the highest and most frequently occurring predictor variable accounting for the greatest percentage of the variance in the Cortland sample.

Given the findings in this study, the writer can only speculate that this inconsistency occurred purely by chance or mention a purely speculative concept pertaining to fiscal policy determined solely by the Central Office of Administration which equates institutional appropriations by a full-time study equivalent formula. This mechanism could possibly result in teachers being insecure in times of employment retrenchment. The University enrollment and fiscal policy could possibly influence teacher grading. But this is mere speculation. Other pertinent data would need to be collected and analyzed.

Although the institutions are quite similar in many ways, these findings appear to suggest that the institutions are also quite different as they pertain to the grading practices of their teachers. Since this is so, one cannot make a general assertion about the differences in the severity of grading among the various disciplines and class sizes in the State

University of New York nor in American higher education in general.

Upon looking at the results of this study, the most obvious interpretation is that the grading standards of a particular campus are idiosyncratic and apply only to the dynamics of that campus. In other words, they apply only to that campus and are not generalizable from campus to campus. As was shown, no significant correlations were found which indicates a basis for additional research. The variables studied fail to aid in predicting grades of faculty. Other factors not included in the study, including student ability, faculty-student attitudes and personological factors, may play some roles in the grades teachers give.

There are many speculative approaches that could lead to further research. For instance, teacher job security, the studied variables and grades given. Faculty-student interpersonal relations, demographic variables and grades given would be another suggestion. Other studies of interest may include student ratings of teachers longitudinal studies on those students'

perceptions that fail, and teacher evaluations of teaching methods.

The Oswego sample indicates course environmental factors as having a greater frequency of occurrence in all regression equations with the exception of the proportion of incompletes and withdrawals. Thus it would support that none of the teacher labels given by academe have a statistically significant, meaningful relationship to the grades a teacher gives. On the other hand, these factors generally believed to be beyond the control of teachers, that of class size and course level, appear to be worthy items of additional research.

On the other hand, the Cortland data appear to suggest that salary considerations, tenure status and course level play some small role in the grading process of those teachers, yet fail to account for a significant amount of the observed variance.

In conclusion, this study tended to support some findings by some researchers but failed to support others. The most significant finding, however, suggests that those titles bestowed on teachers by academe of faculty rank, degree and tenure having no necessary

relationship by themselves to the grades teachers give. This study also suggests that sex and age of the teacher and discipline play an indeterminant role in the grades teachers give. On the other hand, class size and level, sometimes yielding moderate results, appear to be of importance in the grading process; yet again, not at a statistically significant level. The Cortland sample yielding salary as the most consistent factor for explaining grading practice may possibly be related to job security, a matter which may be peculiar to some, but certainly not all college campuses.

A concluding factor in the results of this study shows grading from a philosophical standpoint is largely the result of unknown factors. The factors in this study cannot, in themselves, account for college grades. This study suggests that none of the subjective labels given by academe necessarily plays a significant role in the grading process, therefore grading should be regarded a process or product of teacher-student interactions of continuing elusive quality.

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